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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/524,350	09/30/2005	Jao Wu	115427.00002	6322
72535 7590 12/18/2007 MCCARTER & ENGLISH, LLP STAMFORD OFFICE FINANCIAL CENTRE, SUITE 304A 695 EAST MAIN STREET STAMFORD, CT 06901-2138			EXAMINER NGUYEN, DINH Q	
			ART UNIT 3752	PAPER NUMBER
			MAIL DATE 12/18/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/524,350

Applicant(s)

WU, JAO

Examiner

Dinh Q. Nguyen

Art Unit

3752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 10/01/07.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 6, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Forbert et al.

Forbert et al. an apparatus for regulating fluid flow through a spray nozzle, said apparatus comprising: a circular chamber 4 defined by spaced apart end walls 5/7, a peripheral side wall, a central axis; an inlet 10 at or near said peripheral side wall to allow a flow of fluid to enter said chamber substantially tangential to said peripheral side wall (see column 6, lines 60+ and figure 3), an outlet 8 exiting through one of said end walls wherein in use a flow of fluid entering through said inlet has a primary lower layer that substantially follows a first circular flow path which forms a vortex commencing at or near said peripheral side wall and increases in velocity and pressure towards said outlet; and at least one secondary upper layer flowing in by inlet 11 that substantially follows a second flow path radially inwardly towards said central axis, wherein said primary lower layer and said secondary upper layer interact and support each other (see column 6, lines 65+) in a non-destructive manner from peripheral side wall to said outlet.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3, 4, 7, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forbert et al. in view of Perera.

Forbert et al. teaches all the limitations of the claims except for a disc engageable with a spray nozzle housing. However, Perera discloses an apparatus for regulating flow through a spray nozzle 3 comprising: a circular chamber 7 with end walls 1/15, a peripheral sidewall 5, a central axis; a first inlet 13 enter the chamber tangential to the peripheral wall to form a primary lower layer, an outlet exiting 3, wherein disc 5 engageable with a spray nozzle housing 1, a plurality of inlets 9, and a fix narrow annular gap 17 for generating an inwardly radial flow. Therefore, it would have been obvious to one having ordinary skill in the art to have provided the device of Forbert et al. with a disc engageable with a spray nozzle housing as suggested by Perera. Doing so would provide a compact spray nozzle (see column 1, lines 15+).

5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Davies in view of Forbert et al. in view of Perera as applied to claims 3, 4, 7, and 9 above, and further in view of Jacob.

Forbert et al. in view of Perera teaches all the limitations of the claims except for a shower head. However, Jacob discloses a radially inward inlet 58 and a circular

chamber 48. Therefore, it would have been obvious to one having ordinary skill in the art to configure the device of Forbert et al. and Perera with a shower head as suggested by Jacob. Doing so would provide an effective shower head.

6. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Davies in view of Forbert et al. in view of Perera as applied to claims 3, 4, 7, and 9 above, and further in view of Hunter et al.

Forbert et al. in view of Perera teaches all the limitations of the claims except for the disc with curved portion. However, Hunter discloses a fluid regulating device with inlets 61 and 62 enter the chamber tangential to the peripheral wall and disc 41/42 having curved portion (see figures 2 and 3). Therefore, it would have been obvious to one having ordinary skill in the art to have provided the device of Forbert et al. and Perera with the disc with curved portion as suggested by Hunter. Doing so would provide an effective way for mixing fluids (see column 2, lines 28+).

Allowable Subject Matter

7. Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

8. Applicant's arguments filed October 01, 2007 have been fully considered but they are not persuasive.

9. Applicant's arguments with respect to claims 1-11 have been considered but are moot in view of the new ground(s) of rejection.

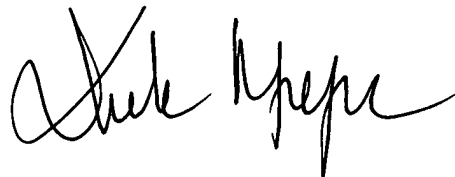
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10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dinh Q. Nguyen whose telephone number is 571-272-4907. The examiner can normally be reached on Monday-Thursday 6:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Shaver can be reached on 571-272-4720. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Dinh Q. Nguyen
Primary Examiner
Art Unit 3752

dqn